

REMARKS

Claims 26-48 are pending in the present application.

Claims 26-48 have been rejected.

Claims 26-48 remain in the present application. Reconsideration of the claims in view of the following arguments is respectfully requested.

In Sections 3-14 of the May 19, 2004 Office Action, the Examiner rejected Claims 26-48 under U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,006,323 to *Ma et al.* (hereafter, “*Ma*”) in view of U.S. Patent No. 5,890,181 to *Selesky et al.* (hereafter, “*Selesky*”). The Applicant respectfully traverses the rejection of Claims 26-48.

In *ex parte* examination of patent applications, the Patent Office bears the burden of establishing a *prima facie* case of obviousness. MPEP § 2142; *In re Fritch*, 972 F.2d 1260, 1262, 23 U.S.P.Q.2d 1780, 1783 (Fed. Cir. 1992). The initial burden of establishing a *prima facie* basis to deny patentability to a claimed invention is always upon the Patent Office. MPEP § 2142; *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); *In re Piasecki*, 745 F.2d 1468, 1472, 223 U.S.P.Q. 785, 788 (Fed. Cir. 1984). Only when a *prima facie* case of obviousness is established does the burden shift to the applicant to produce evidence of nonobviousness. MPEP § 2142; *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); *In re Rijckaert*, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). If the Patent Office does not produce a *prima facie* case of unpatentability, then without more the applicant is entitled to grant

of a patent. *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); *In re Grabiak*, 769 F.2d 729, 733, 226 U.S.P.Q. 870, 873 (Fed. Cir. 1985).

A *prima facie* case of obviousness is established when the teachings of the prior art itself suggest the claimed subject matter to a person of ordinary skill in the art. *In re Bell*, 991 F.2d 781, 783, 26 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1993). To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed invention and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. MPEP §2142.

The Applicant directs the Examiner's attention to Claim 26, which contains the following unique and novel limitations:

26. (Previously Presented) A method for detecting corruption associated with a stack in a storage device, the method comprising the steps of:
- storing a first predetermined value in a first address location immediately preceding the starting location of the stack;
 - detecting the occurrence of a stack operation within the stack; and
 - comparing the value in the first address location to the first predetermined value to determine if the stack operation corrupted the first predetermined value stored in the first address location.
- (emphasis added)

The Applicant respectfully asserts that the above-emphasized limitations are not disclosed, suggested, or even hinted at in the *Ma* reference or the *Selesky* reference, or in the combination of the *Ma* and *Selesky* references.

In rejecting Claim 26, the Examiner asserted that the Claim 26 limitation regarding “comparing the value in the first address location to the first predetermined value to determine if the stack operation corrupted the first predetermined value stored in the first address location” is disclosed in the *Ma* reference at column 13, lines 13-22. The Applicant has reviewed the portions of the *Ma* reference relied upon by the Examiner and respectfully asserts that the Examiner has misunderstood the teachings of the *Ma* reference.

The *Ma* reference describes a stack management unit that manages a frame stack as a fast-access register stack (primary stack) and a slow-access supplemental memory stack (secondary stack). (*See Col. 7, lines 63-66*). The primary stack is of a fixed size and, when it is filled, overflow frames are stored in the secondary stack. (*See Col. 8, lines 3-12*). An overflow/underflow detection circuit is used to determine when frames should be transferred between the primary and secondary stacks. (*See Col. 9, lines 22-45*).

The text of the *Ma* reference relied upon by the Examiner at column 13, lines 13-22 describes one element of the overflow/underflow detector as:

a comparator configured to receive a top of primary stack (TOS) signal indicating an end location of a last stored element in said primary stack, configured to receive a bottom of primary stack (BOS) signal indicating a beginning location of a first stored element in said primary stack, configured to receive said overflow and underflow limitations signals, and configured to produce said spill and fill signals in response to said received signals.

The operation of the comparator is illustrated in Figure 5 and more fully described at column 8, line 65, to column 9, line 21, which states:

A top of stack (TOS) register 55 (discussed in more detail below) indicates the last register written to in the primary stack (e.g., the end of a data element). A bottom of stack (BOS) register 56 indicates the beginning of the oldest element (e.g., frame portion, a word of a frame portion, etc.) in the primary stack. The number of registers from the TOS value to the BOS value is the number of registers used in the current primary stack 41. In a preferred embodiment of the present invention, the primary stack 41 is configured as a continuous memory (see FIG. 1). Consequently, the current usage of the primary stack 41 can be calculated by the BOS value and the TOS value.

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To calculate the current usage of the primary stack, the TOS value is subtracted from the BOS value by subtractor 57. As shown, the K LSBs of the result are compared to overflow and underflow limitation values respectively stored in the overflow limitation register 53 and the underflow limitation register 54. (emphasis added)

Thus, *Ma* teaches a TOS register containing the address of the last used location in a stack and a BOS register containing the address of the first used location in a stack. The difference between the two addresses is calculated and compared to overflow and underflow limitation values in order to determine whether the primary stack is too full or not full enough, respectively. When the primary stack is too full, frames are transferred out to the secondary stack. When the primary stack is not full enough, frames are transferred in from the secondary stack.

The Applicant respectfully asserts that the portions of the *Ma* reference relied upon by the Examiner do not disclose, suggest, or even hint at the unique and novel limitations recited above in Claim 26. The *Ma* reference does not teach a method for detecting corruption associated with a stack, as recited in Claim 26. Instead, the *Ma* reference teaches a stack manager for maintaining the

quantity of frames in a primary stack between certain preset levels by transferring frames between the primary stack and a secondary stack. Furthermore, the *Ma* reference does not teach comparing the value in a first address location with a predetermined value, as recited in Claim 26. Instead, the *Ma* reference teaches comparing a calculated value to predetermined values. Thus, the *Ma* reference does not teach the asserted limitations of independent Claim 26.

The *Selesky* reference does nothing to overcome the shortcomings of the *Ma* reference. The *Selesky* reference teaches a system and method for grouping actions on a command history stack in order to undo all the actions in the group with a single undo command. (*See Col. 2, lines 51-59*). As described in the passage of the *Selesky* reference relied upon by the Examiner at column 6, lines 59-65, the actions are grouped by storing a beginning marker on the stack, followed by the actions in the group, followed by an end marker. When an undo command is issued, an application utilizing the method of the *Selesky* reference reads and undoes actions from the stack until the beginning marker is encountered.

Notably, the method of the *Selesky* reference relies upon the beginning marker remaining uncorrupted in order to function properly. Should the marker become corrupted, it would cease to be recognizable as a beginning marker and the behavior of the *Selesky* system would become unpredictable. As such, the person of skill in the art would not have a reasonable expectation of success in combining the teaching of the *Selesky* reference with that of the *Ma* reference in order to achieve the Applicant's method for detecting corruption associated with a stack in a storage device, as recited in Claim 26.

In sum, the unique and novel limitations recited in Claim 26 are not disclosed, suggested, or even hinted at in the *Ma* reference or the *Selesky* reference, or in the combination of the *Ma* and *Selesky* references. This being the case, Claim 26 presents patentable subject matter over the *Ma* and *Selesky* references. Also, Claims 27-37 depend from Claim 26 and contain all of the unique and novel limitations recited in Claim 26. Therefore, Claims 27-37 also are patentable over the *Ma* and *Selesky* references.

The Applicant respectfully asserts that independent Claim 38 contains limitations that are analogous to the unique and novel limitations recited in Claim 26. This being the case, independent Claim 38 presents patentable subject matter over the *Ma* and *Selesky* references. Finally, Claims 39-49, which depend from Claim 38, contain all of the unique and novel limitations recited in Claim 38. Therefore, Claims 39-49 also are patentable over the *Ma* and *Selesky* references.

SUMMARY


For the reasons given above, the Applicant respectfully requests reconsideration and allowance of pending claims and requests that this Application pass to issue. If any outstanding issues remain, or if the Examiner has any further suggestions for expediting allowance of this Application, the Applicant respectfully invites the Examiner to contact the undersigned at the telephone number indicated below or at *jmockler@davismunck.com*.

The Commissioner is hereby authorized to charge any additional fees connected with this communication or credit any overpayment to Deposit Account No. 50-0208.

Respectfully submitted,
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